Regional Bobwhite Quail and Cottontail Rabbit Survey 2003

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Abstract

Data on male bobwhite quail densities were collected biennially since 1991 in 15 counties comprising the species' primary range. Populations showed a small increase, but the overall trend is still a significant decline, as evident from the mean number of whistling males heard during transect runs. The mean number increased from 0.06 in 2001 to 0.10 in 2003. The number of cottontail rabbits seen while running the quail survey was 0.27, an increase from 2001 levels of 0.23.

Methods

Department personnel ran roadside surveys along predetermined transects in 15 counties across Wisconsin's primary bobwhite quail range. Annual surveys began in 1949, and have been run biennially since 1991. The surveys took place between 15 June and 5 July, beginning at sunrise on mornings with less than 40% cloud cover and winds less than 5mph. Surveyors made 20 stops approximately one mile apart, and recorded at each stop the number of whistling males heard during a two-minute period. The number of cottontail rabbits seen while running the transect was also recorded. The data were entered into the DNR UNIX production server and analyzed using the Statistical Analysis System (SAS).

Results

Whistling bobwhite quail routes have been conducted in Wisconsin's primary quail range (Figure 1) since the summer of 1949. The number of routes run in 2003 remained the same as the number of routes run in 2001 (18). The number of whistling males per stop increased 67%, from 0.06 in 2001 to 0.10 in 2003 (Figure 2.). However, the number of whistling males per stop remained well below the long-term average (0.58).

Surveyors were also instructed to record all cottontail rabbits seen on the survey route. The numbers of cottontail rabbits seen per transect increased 15%, from 4.5 in 2001 to 5.2 in 2003.

The number of quail heard per stop has shown an inversely proportional relationship with the severity of winter. An index to measure the severity of the winter (WSI) has been developed, using minimum monthly temperatures and daily snow cover for the November through March period. Past analysis has shown, the severity of the winter can account for more than 50% of the annual variability in the number of whistling males heard per stop.

The Winter Severity Index (WSI) for 2000-2001 was 1,861, well above the long-term average WSI (1984-2000) of 864, and was the highest it's been since the winter of 1978-79. This harsh weather likely had a negative impact on bobwhite quail populations. The WSI for 2001-2002 was 312, well below the long-term average (1984-01) of 919. This atypical weather likely had a positive impact, allowing bobwhite quail populations to increase.

In general, the continued declines of bobwhite quail in Wisconsin and nation-wide reflect factors beyond winter conditions. Such causative factors are thought to include habitat deterioration, predation, and possibly pesticides. The future of this sassy little game bird in Wisconsin is in question. Its population will no doubt remain at some level, but certainly not anything like those of yesteryear.

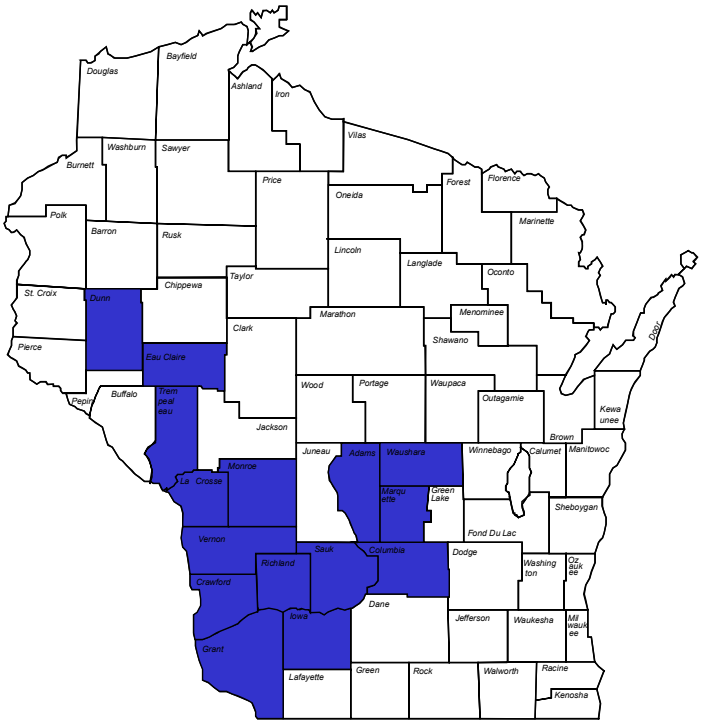

Figure 1. *Shaded counties comprise Wisconsin's primary bobwhite quail range.*

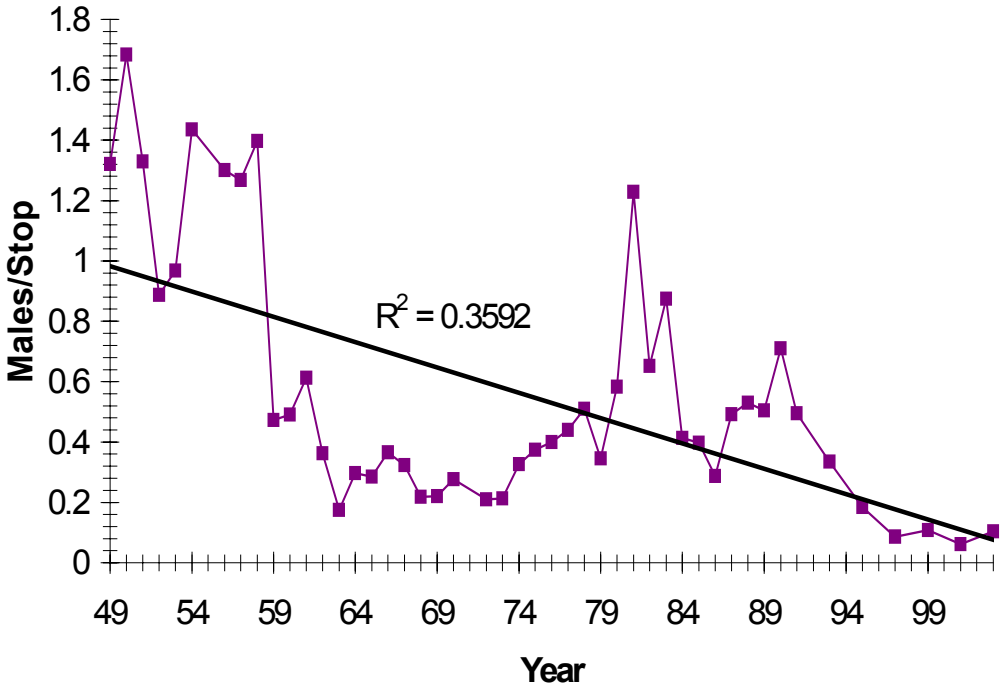

Figure 2. *Mean number of whistling males heard per stop 1949-2003.*